

means for direct communicating with other terminals or MWP's and/or host computers without using modem in or in conjunction with said MWP, and in a connectionless way via wireless messaging means of said MWP and when required via wireless messaging means of the network without establishing any circuit-switched call.

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**3. The terminal of claim 1 or 2 further comprising:**

means for controlling display to conveniently display the broadcasted/received payee's details, name and account number, contact codes and bill to the user;

means for the user to conveniently select and activate the broadcast/received payee's details,  
10 account number, contact codes for sending said data and when needed, the required amount of telecash to the payee's terminal or the host computer;

means for receiving the payee's details, account number, contact codes, based on the location of the payer's and payee's terminals or base stations;

means for terminal-to-terminal signaling, whenever required;

15 means for conveniently arranging the broadcasted/received payees'/service providers' details in an appropriate order to be selected and activated by payer for sending the bill and/or telecash to the payee's terminal or host computer;

means for controlling the means for reloading the smart card with the required amount of telecash and means for spending the required amount of telecash for shopping, purchasing and bill payment;

20 means for controlling the digital camera integral to the terminal, if the user wants the purchasing product's or the bill's details to be read by the camera.

**4. A method for allowing a user to perform purchase and bill payment transactions with other remote terminals or remote host computers, the method comprising the steps of receiving the**  
25 **payee's/payee's, details including account number or codes or contact codes and when required the bill or a bill format in a connectionless way without establishing a circuit-switched call, by a terminal having integral to the terminal a smart card reader, means for reloading the user's smart card with the required amount of telecash, a display, means for controlling and handling the information, each received bill format comprising fields as Amount:, Account no:, Due date:, and other required**  
30 **fields already filled in when received by the payer's terminal or to be filled in, and that by activating the payee's or the host computer's account number or contact codes the bill and, when needed, the required amount of telecash are sent to the payee's terminal or to the host computer directly without using the network or via network.**

35 **5. The method of claim 4 further comprising the following step as much as needed and when required in a different order:**

promoting the user to enter a personal identification code (P-PIN), if the user uses a smart card (as SIM) which can also be reloaded with the required amount of telecash, and if the user activates the required command (payments) in his terminal;

40 encrypting the entered personal identification number;

receiving the payee's terminal's, base station's, transmitter's, product's tag's/card's or the host

computer's transmitting/broadcasting details, or reading the product's bar codes by means of a digital camera integral to said terminal, and monitoring said details on the display of the payer's terminal as much as required, or

prompting the user to activate a function ("payee" or "service provider" or "payments" or any other alike command) which after activation said payer's terminal monitors the payee's terminal's/base station's or host computer's or other sources (product's tag's/card's) transmitting/broadcasting payee's (and product's) details or said payer's terminal requests said payee's terminal or a host computer to send the bill, bill format, payees details, account number, codes;

connectionless communicating with the remote host computer or the payee's terminal to send the bill, and when needed the required amount of telecash, to the payee's terminal or the host computer without establishing any circuit-switched call, and that the communication with the remote host computer or payee's terminal can take place both via internet or messaging means of any wireless network or directly between the payer's and payee's terminals or the host computer without using the network.

6. A method for allowing a user to perform remote purchase and bill payment transaction with other remote terminals or remote host computers, and sending and receiving data, the method comprising the step of controlling and configuring an adjustable radio coverage by means integral to a terminal having wireless/cellular messaging means for transmitting, receiving and handling the data without using modem, and that said radio coverage can be adjusted by means integral to said terminal in order to configure a radio coverage area within which the payee's and payer's terminals and/or host computer can exchange required information, send and receive information without using the network; and that:

for service providers the terminal is further connected or integrated into the automatic machines (petrol stations, coffee machines and other required automatic sellers) of the service providers so that whenever required or continuously the terminal broadcasts/sends the service provider's details, account number, contact codes, the bill, the price of the service and other required information to the payer's terminals (MWP) for performing the payment.

7. A method according to claims 4-5 for sending and receiving purchase transactions and bill payment and that said method is used both in wireless/cellular terminals and also in personal computers and televisions using internet, the method comprising the steps of:

requesting, by means of the payer's terminal, the host computer or other terminals to send the bill, bill inquiry (format) and payee's details to the payer's terminal;

displaying the received bill or bill inquiry for the user;

acceptance of the bill or entering the required data into the bill inquiry by user and activating the required function to send the bill to the host computer or other terminal, or:

the method comprising the steps of:

broadcasting by means of payee's terminal or base station the payee's, and when required the

purchasing product's details, over the air interface for all or a group of payers' terminals;

activating the payee's and/or product's details (account code, contact number) in the payer's terminal and sending the bill, with the required amount of telecash when needed, to the payee's terminal or to the host computer.

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8. A method for allowing a user to perform purchase and bill transactions with other remote terminals or remote host computers, the method **comprising** the steps of:

sending a (short) message to the payee's terminal, said message including the payee's contact number/codes when received by the payee's terminal;

10 sending the payable bill or a notification of the sum which must be paid by the payer to the payee to the payer's terminal using the payer's contact number/codes already received;

sending the required amount of telecash from the payer's terminal to the host computer or to the payee's terminal, or sending the bill with or without the amount of telecash to the host computer;

15 debiting the payer's account for the payee, if the required telecash has not been sent to the payee's account.

9. A system for allowing a user to perform remote purchase payment transactions with other remote terminals or remote host computer, the system **comprising**:

a wireless/cellular terminal (MWP) comprising:

20 means for receiving, handling and transmitting the users' details, account number, contact codes and number, bill, the required amount of telecash to other terminals directly without using the network or via base stations or via any wireless/cellular and /or internet network;

means for sending, receiving and/or broadcasting the required data to/from other terminals directly under the coverage of said terminals without using the network;

25 means for configuring an adjustable radio coverage within which said terminal can send, receive and/or broadcast data to/from other terminals or host computer without using the network;

means integral to the terminal for operating the terminal, receiving and monitoring the payee's/service providers' details, account number and codes, contact number and codes, the required bill or a bill inquiry;

30 means integral to the terminal and coupled to the terminal's control means for receiving and sending the required amount of telecash directly from said MWP to other terminals or MWP;

means integral to the terminal for operating, when required, as a wireless/cellular terminal and when required as a cordless terminal;

means integral to the terminal for making mobile/cordless telephone calls;

35 a smart card reader integral to the terminal, if user uses smart card;

means for reloading the user's smart card with the required amount of telecash;

a display integral to the terminal;

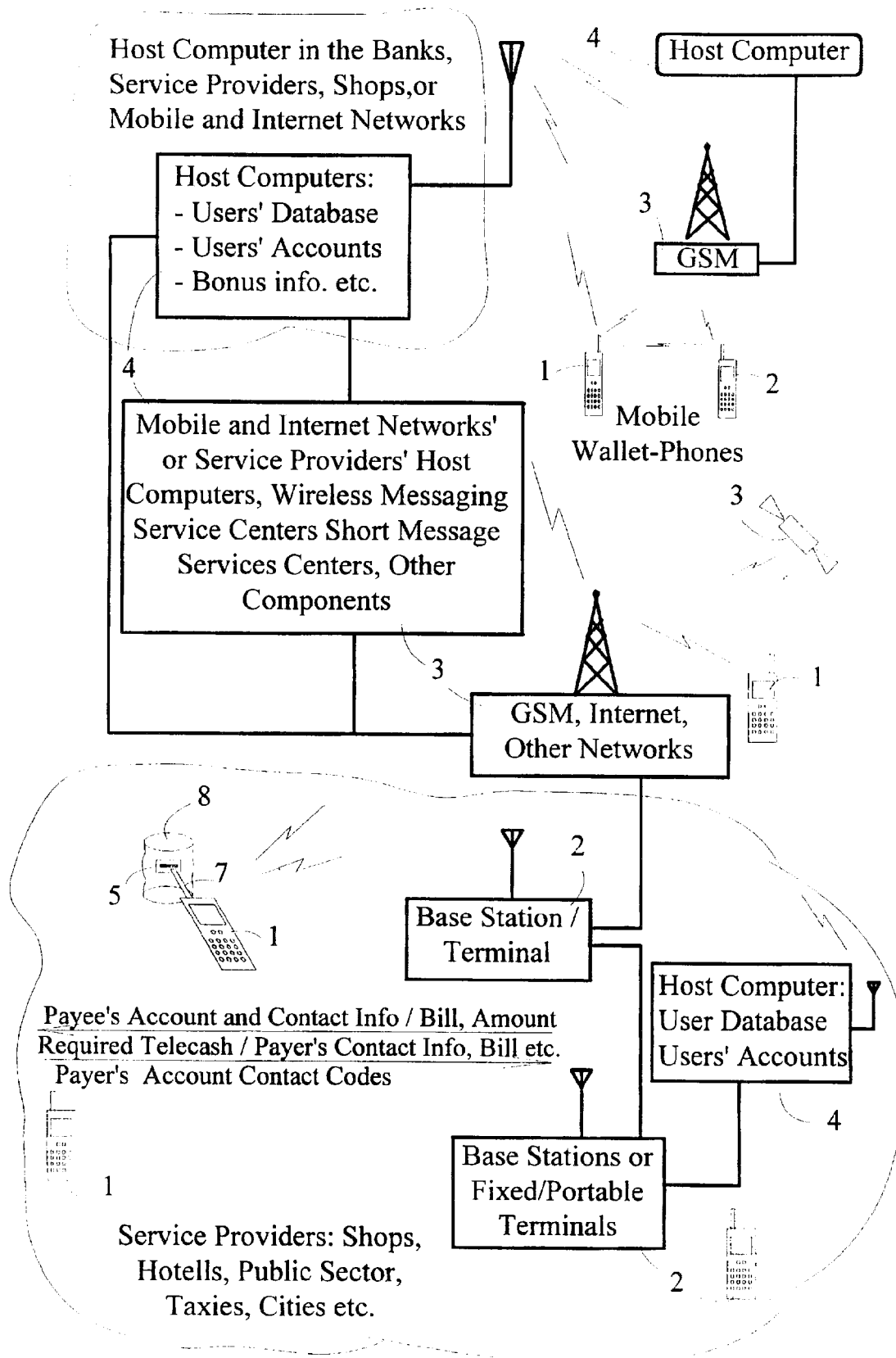
a digital camera means integral to the terminal, if the user wants the purchasing product's or the bill's details to be read by the camera;

40 when used for service providers, the terminal further includes interface means for connecting the terminal to the service provider's automatic machines (petrol stations, coffee machines and any other kind of automatic seller machine).

**10. The system of claim 9 further comprising:**

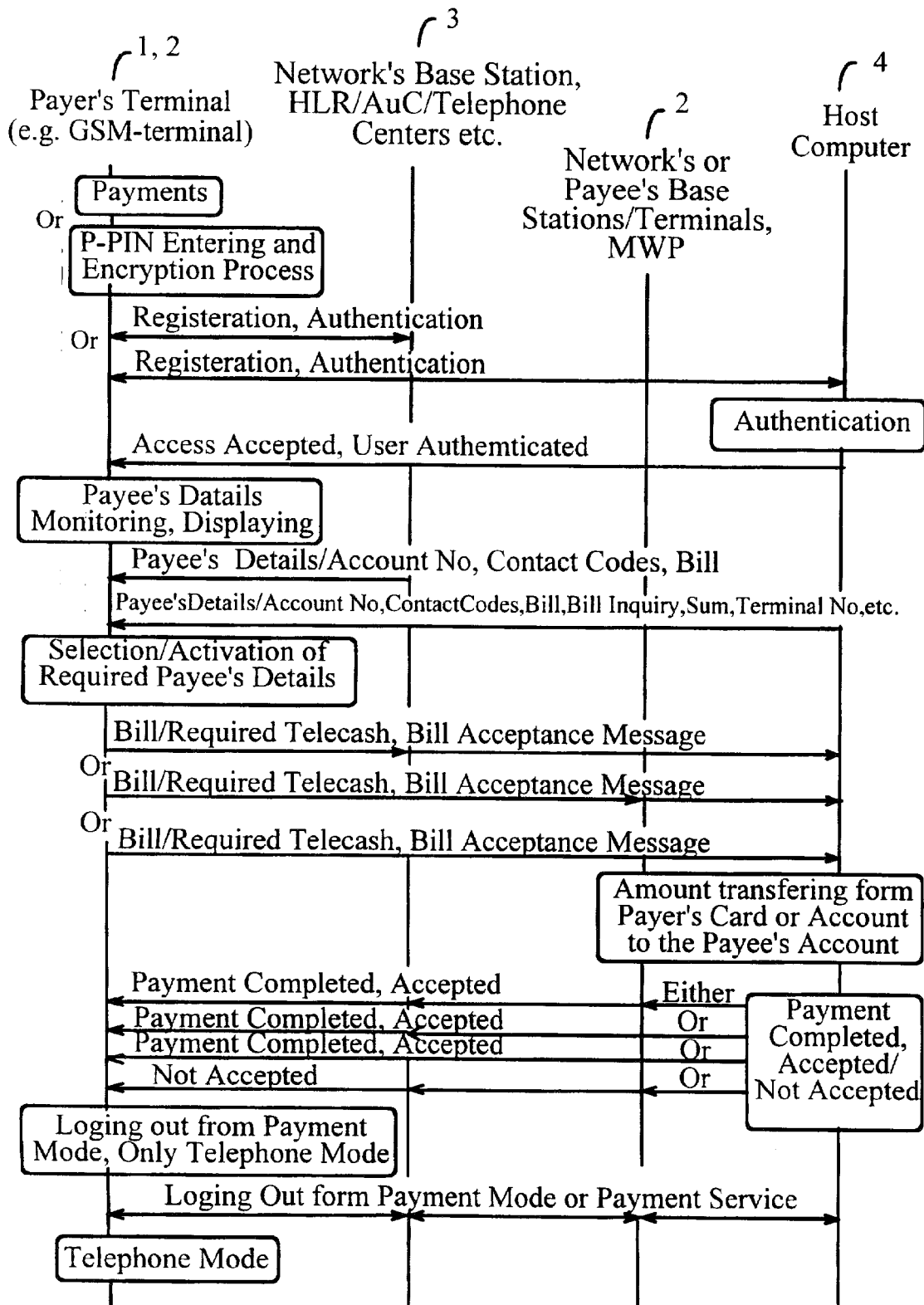
- means for prompting the user via the display to enter a personal identification number (P-PIN),
- means for controlling the means for encryption to encrypt the entered personal identification number, if the user uses a smart card in or in conjunction with the terminal;
- 5 means for receiving, handling and displaying a bill inquiry, bills and payee's details and sending said data in a connectionless way to other terminals, personal computers and/or host computer;
- means for wireless, modemless and connectionless communicating with other terminals or host computer to send and receive the payee's details, contact codes, numbers, account number, bills, bill inquiry, required amount of telecash, directly without using the network or via the network;
- 10 means integral to the terminal for controlling and configuring an adjustable radio coverage area for wireless/cellular terminal-to-terminal or terminal-to-host computer communications without using the network, so that the payer's and payee's terminals can exchange information securely and without interruption of other terminals;
- means integral to the terminal for controlling and configuring an adjustable radio coverage area
- 15 which can be adjusted automatically or manually to a desirable range (1 millimeter to 1 meter or more or less);
- means for controlling the display to display the received payee's details, account number, contact number, bills, bill inquiry;
- means for the user to select and activate the payee's details for sending the bill or payment to the
- 20 payee's terminal or host computer;
- means integral to the terminal and/or network and host computer for defining the location of the terminal based on which the details of all service providers/payees which are near to the payer's terminal or are under the same radio coverage can be sent/broadcast to the payer's/payers' terminals;
- means for terminal-to-terminal transmitting, broadcasting, receiving of information without using
- 25 the network;
- means for broadcasting/transmitting the service provider's/payee's details, account number, contact codes from the service provider's/payee's terminal/base station to the payer's/payers' terminals;
- means for terminal-to-terminal communicating using wireless messaging communication without
- 30 using the network;
- means for communicating between the payee's and payer's terminals and/or host computer via messaging means of wireless/cellular networks (short messaging, paging and other such networks);
- means for controlling the means for reloading the smart card with the required amount of telecash and means for spending the required amount of telecash for shopping, purchasing and bill payment;
- 35 means for controlling the digital camera integral to the terminal, if the user wants the purchasing product's or the bill's details to be read by the camera.

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**FIG. 1**

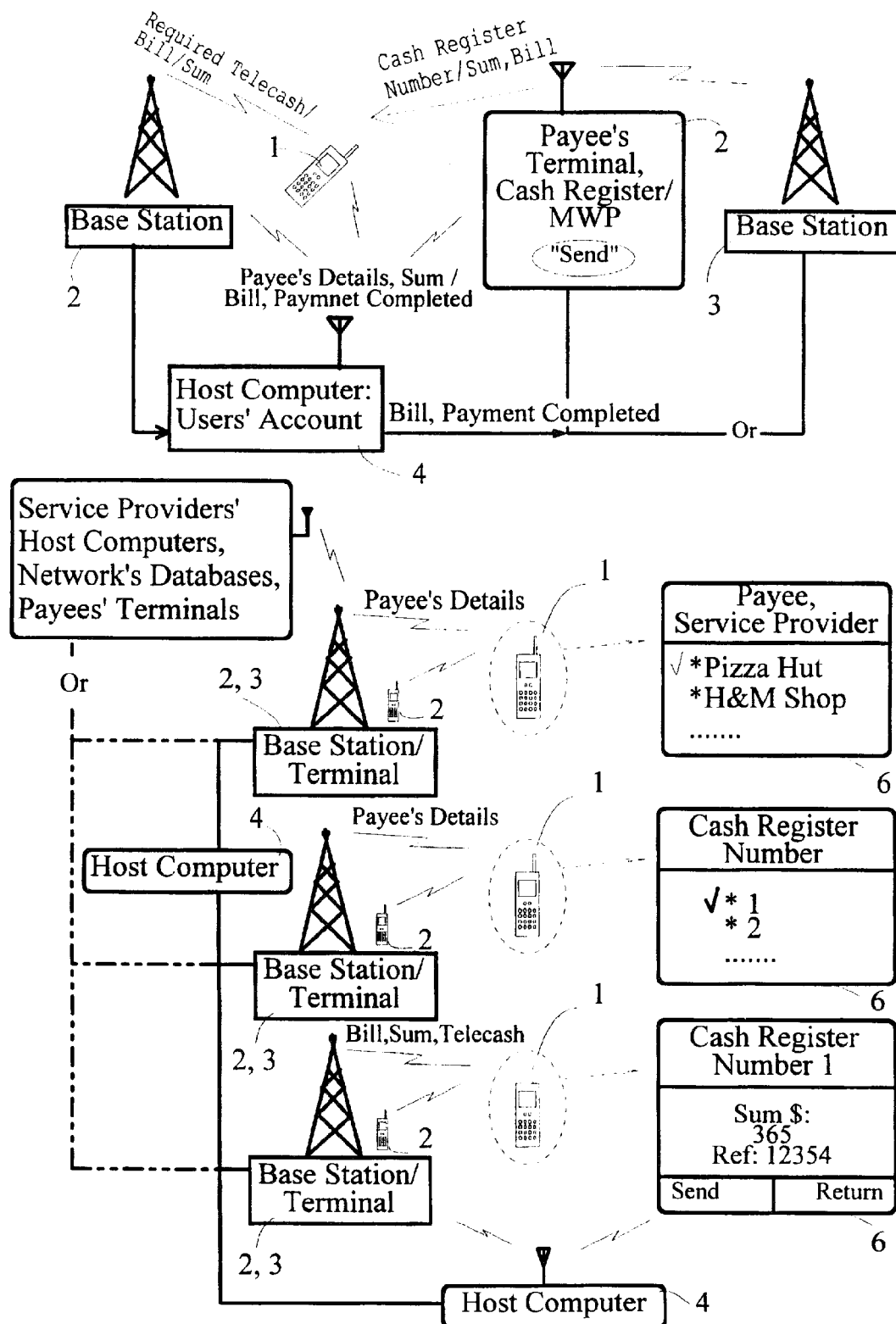
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FIG. 2



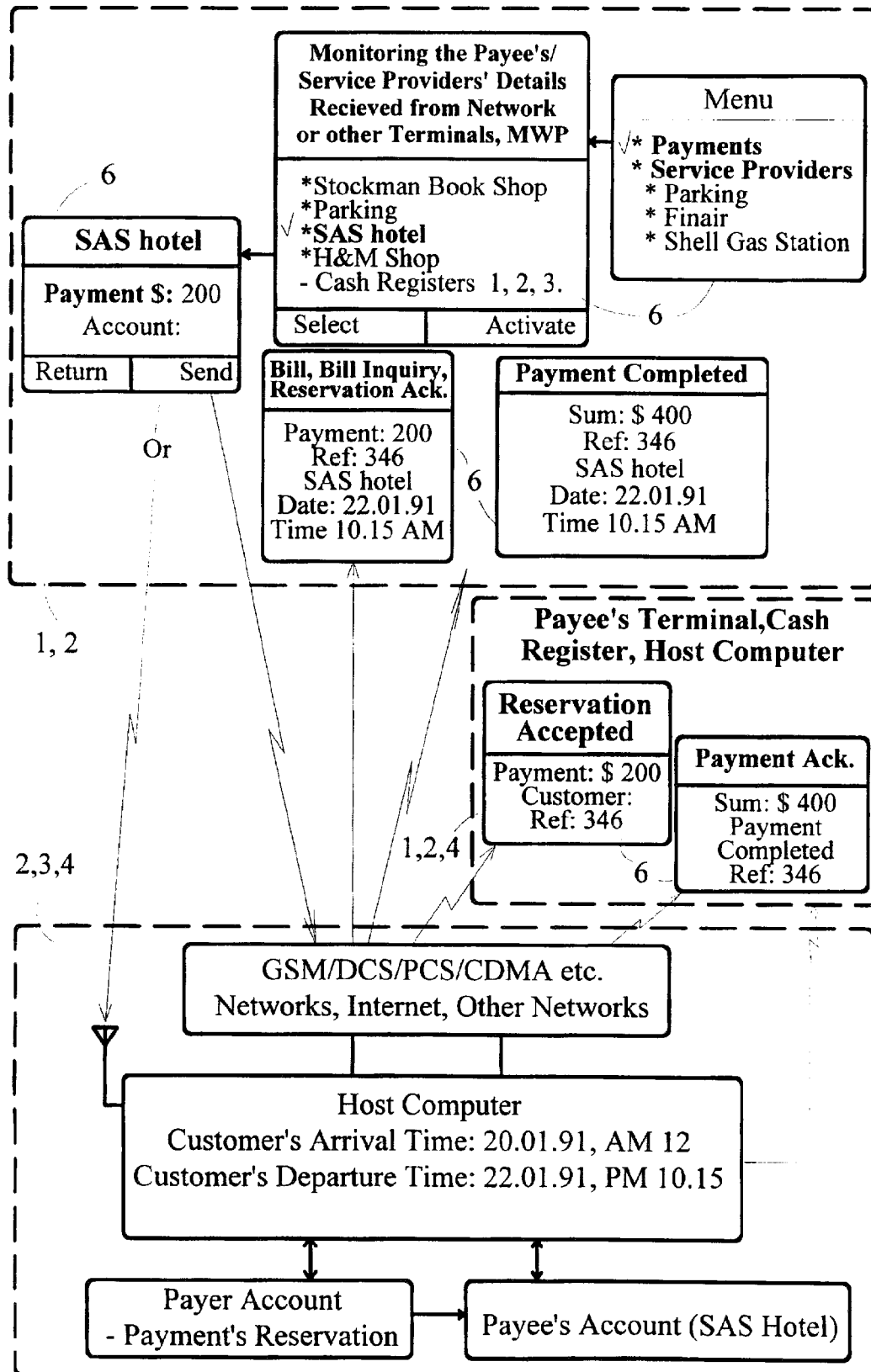
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FIG. 3



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FIG. 4

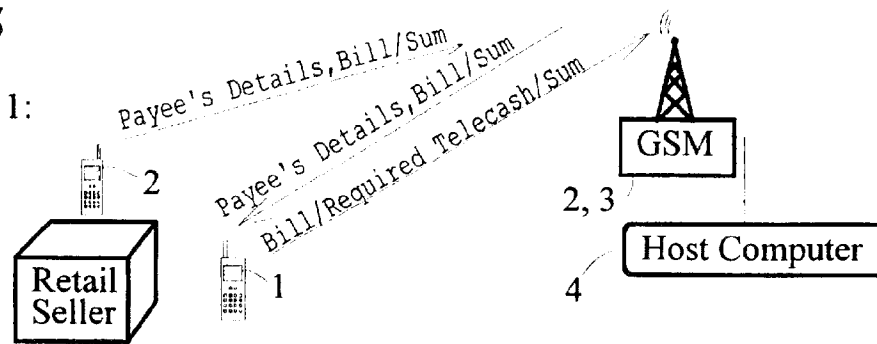




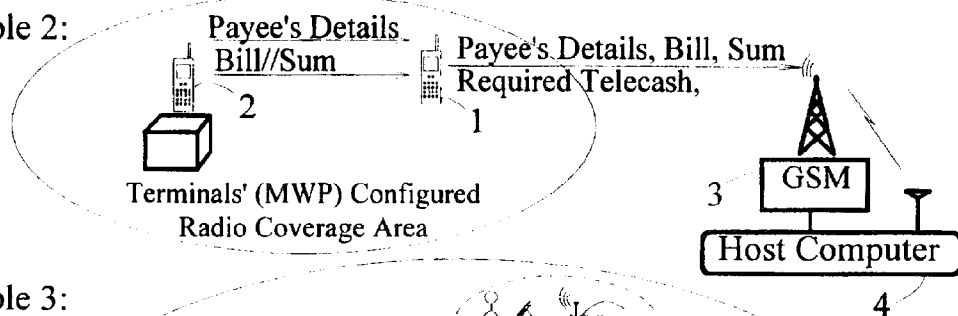
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**FIG. 5**

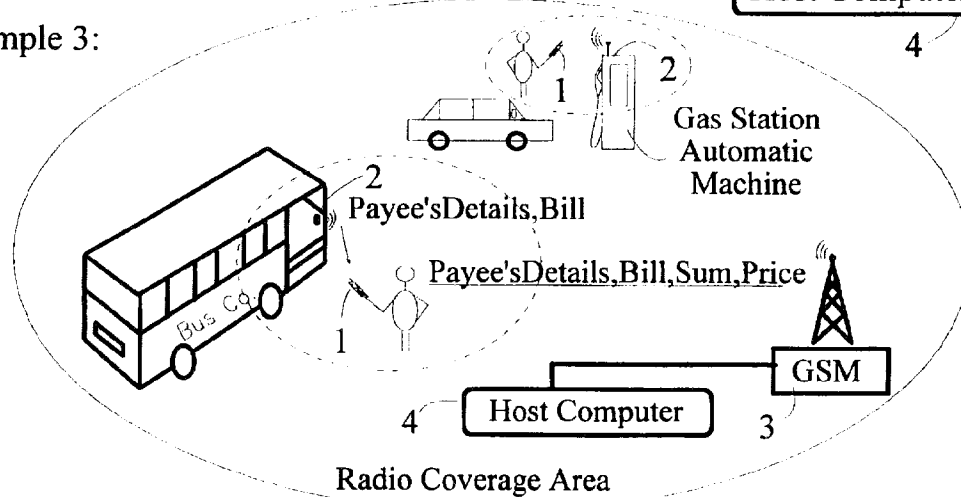
Example 1:



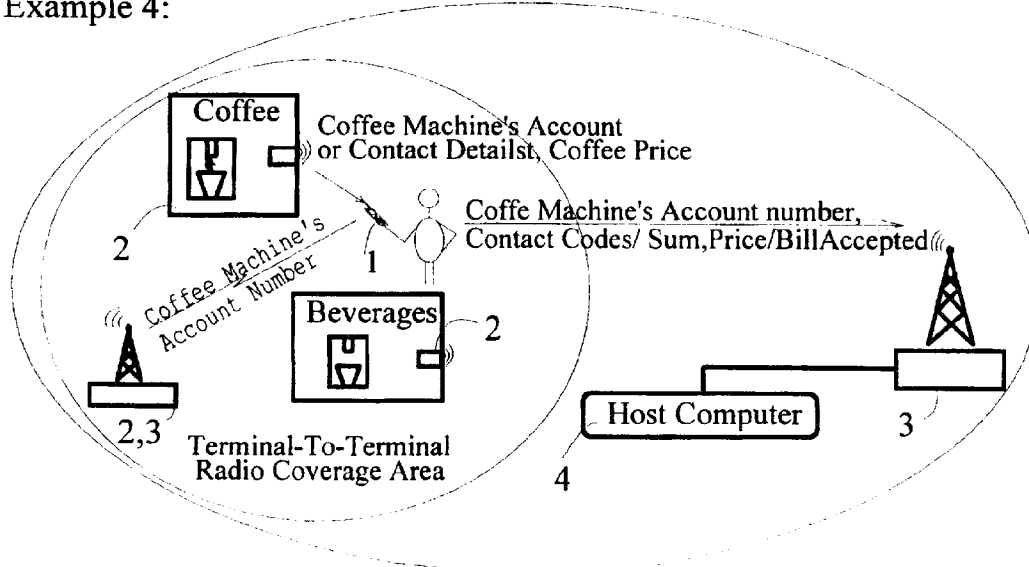
Example 2:



Example 3:

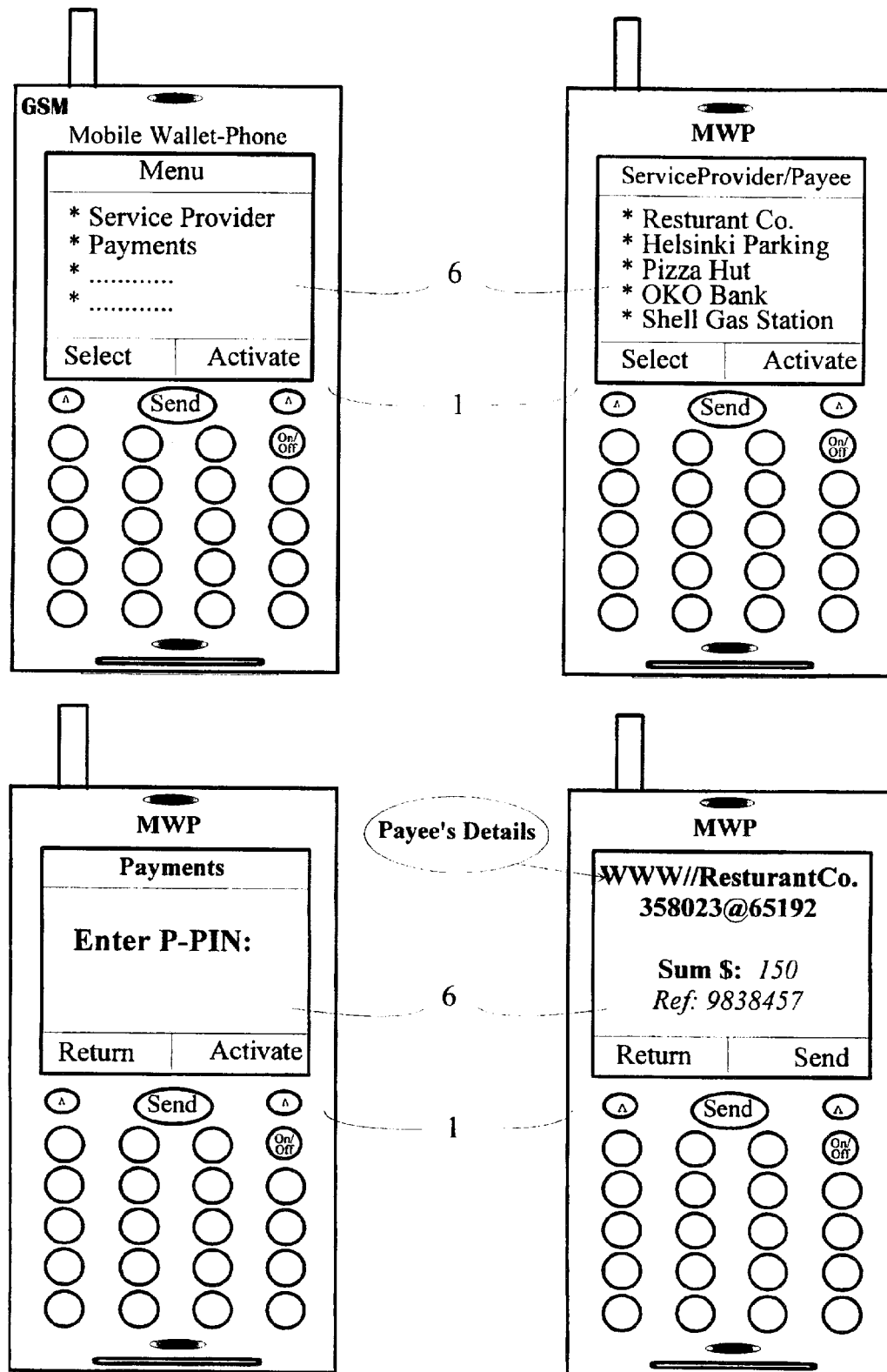


Example 4:



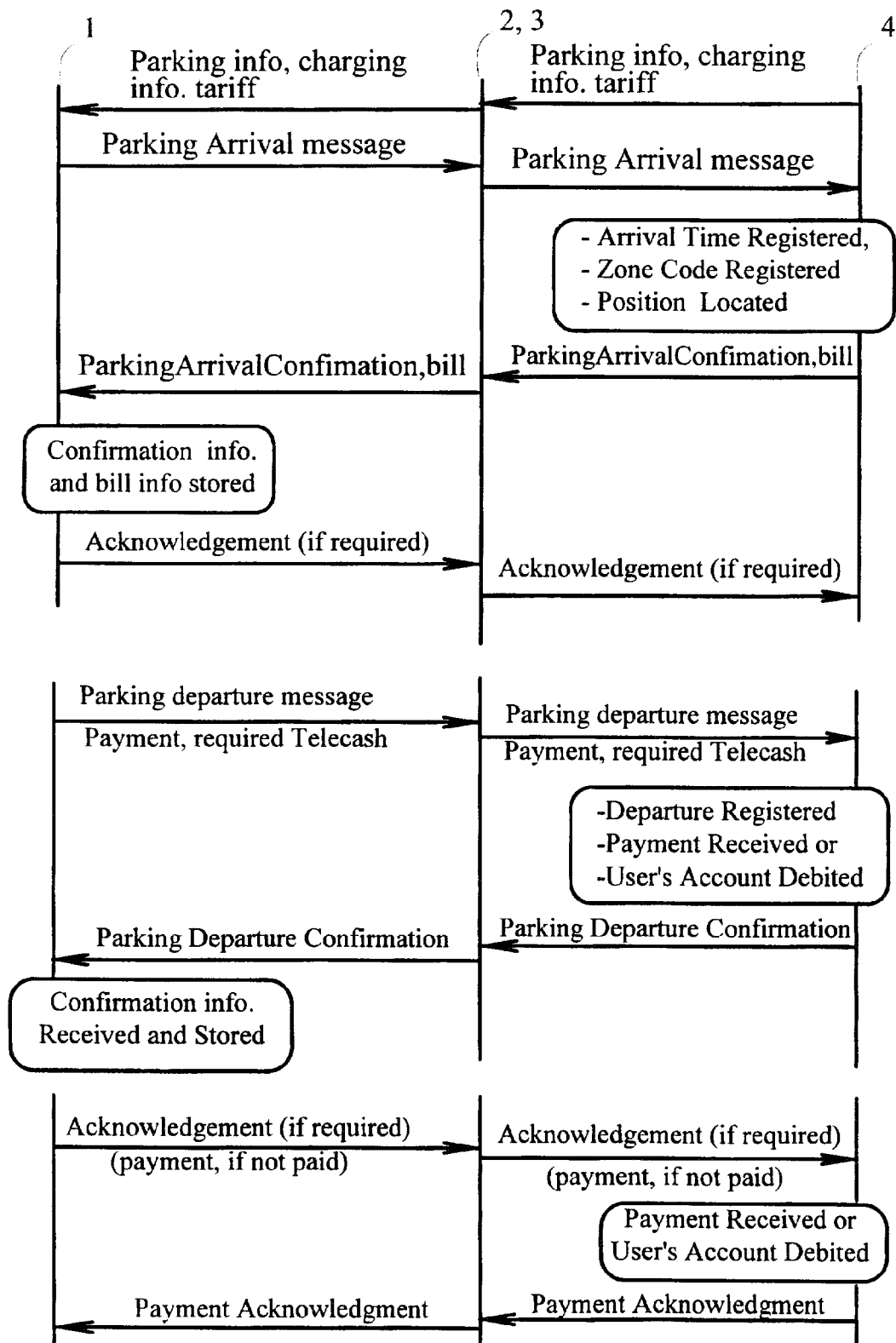
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FIG. 6

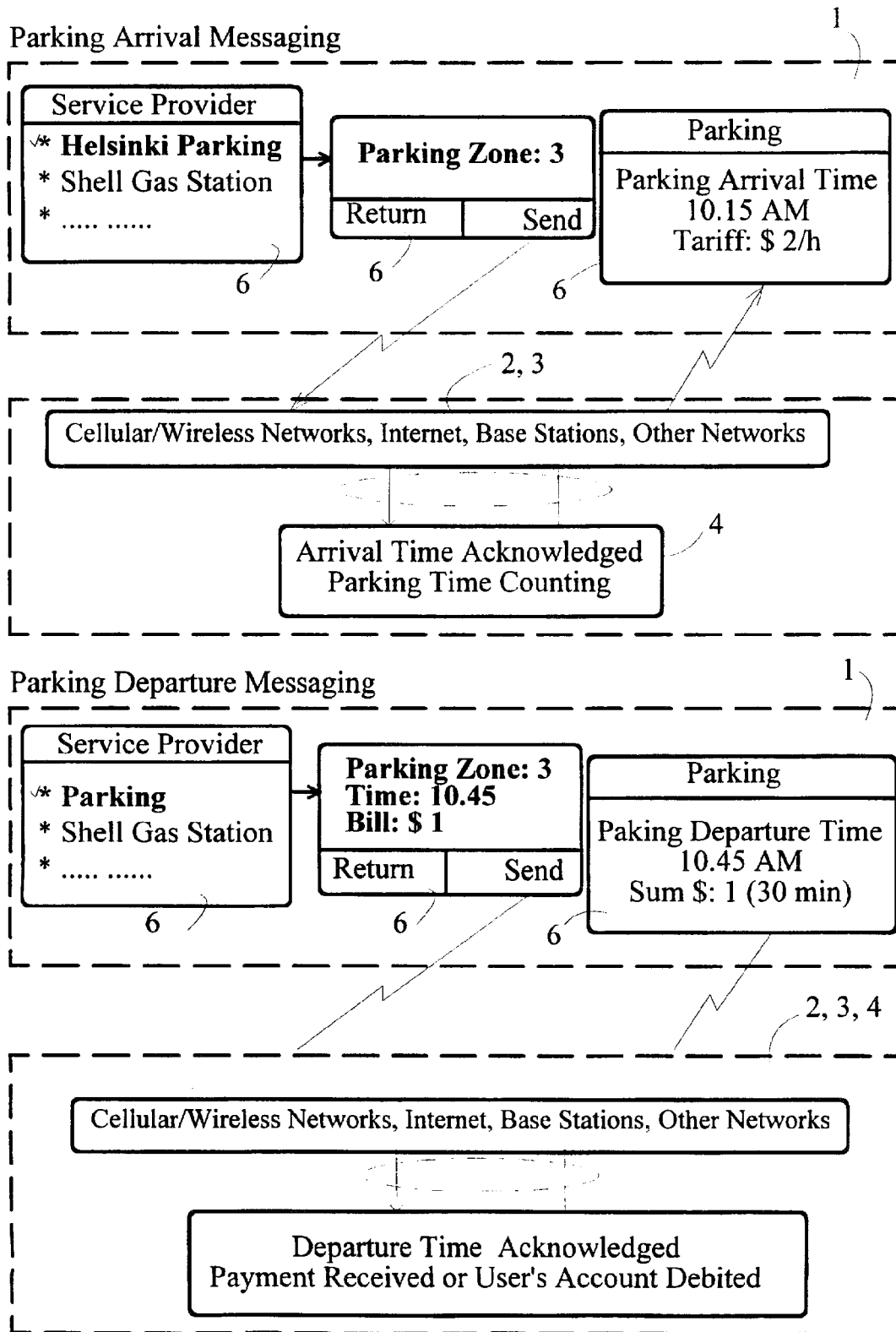


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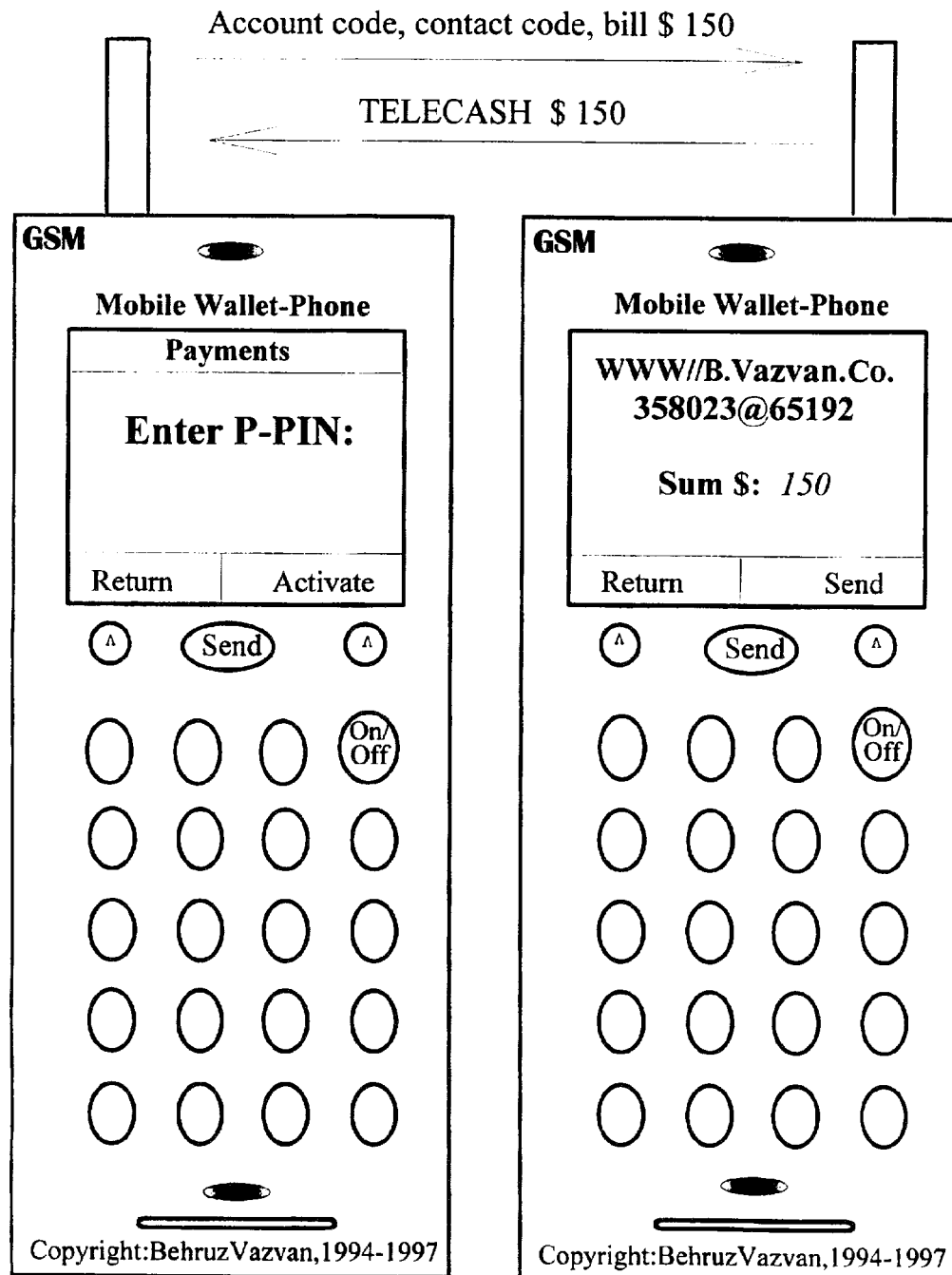
FIG. 7



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**FIG. 8**

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**FIG. 9**

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 97/00315

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: G07F 7/08, G07F 19/00, G06F 17/60 // G06F 157:00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: G07F, G06F, H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EDOC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 9613814 A1 (VAZVAN, BEHRUZ), 9 May 1996 (09.05.96) --	1-10
A	WO 9411849 A1 (VATANEN, HARRI), 26 May 1994 (26.05.94) --	1-10
A	US 5030806 A (THIERRY COLLIN), 9 July 1991 (09.07.91) --	1-10
P,A	WO 9632700 A1 (AU-SYSTEM), 17 October 1996 (17.10.96) -- -----	1-10



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

01/10/97

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9613814 A1	09/05/96	EP 0739526 A	30/10/96
		FI 945075 A	29/04/96
		FI 962553 D	00/00/00
		FI 962961 A	28/08/96
		FI 971009 A	26/04/97
		FI 971248 D	00/00/00
		FI 971848 A	30/04/97
WO 9411849 A1	26/05/94	EP 0669031 A	30/08/95
		FI 925135 A	12/05/94
		FI 934995 A	12/05/94
		NO 951814 A	09/05/95
US 5030806 A	09/07/91	EP 0345108 A	06/12/89
		FR 2632101 A,B	01/12/89
		FR 2639742 A	01/06/90
		US 4992646 A	12/02/91
WO 9632700 A1	17/10/96	AU 3943795 A	06/06/96
		EP 0784715 A	23/07/97
		SE 9501347 A	12/10/96